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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,759	08/01/2001	Fumii Higuchi	D/A1101	2733

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EXAMINER
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COOLEY, CHARLES E

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 11/05/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

C705

**Office Action Summary**

Application No.

09/918,759

Applicant(s)

HIGUCHI, FUMII

Examiner

Charles E. Cooley

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.      6) ☐ Other:

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## OFFICE ACTION

1. As a result of restriction, this application has been reassigned to Technology Center 1700, Art Unit 1723 and the following will apply for this application:

a. Please direct all written correspondence with the correct application serial number for this application to Art Unit 1723.

b. Telephone inquiries regarding this application should be directed to the Technology Center 1700 receptionist at ☎(703) 308-0651 or to the Examiner at ☎(703) 308-0112. Official facsimile correspondence filed before a final office action should be transmitted to ☎(703) 872-9306. Official facsimile correspondence which responds to a final office action should be transmitted to ☎(703) 872-9306.

### *Election/Restriction*

2. Applicant's election without traverse of Group I - claims 1-5 and 12-20 in Paper No. 4 is acknowledged.

3. Claims 6-11 are thereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 4.

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***Information Disclosure Statement***

4. Note the attached PTO-1449 form submitted with the Information Disclosure Statement filed 01 AUG 2001.

***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: "fluid 275" (see paragraph "[53]"). Correction is required. Applicant should verify that (1) all reference characters in the drawings are described in the detailed description portion of the specification and (2) all reference characters mentioned in the specification are included in the appropriate drawing Figure(s) as required by 37 CFR 1.84(p)(5).
6. Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must include a print or pen-and-ink sketch showing changes in *red ink* in accordance with MPEP § 608.02(v).

**IMPORTANT NOTE:** The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office Action, and *may not be deferred*.

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***Specification***

7. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
8. The abstract is acceptable.
9. The title is acceptable.

***Claim Objections***

10. Claim 16 is objected to because of the following informalities:  
Claim 16 depends from itself.  
Appropriate correction is required.

***Claim Rejections - 35 U.S.C. § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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**12. Claims 1-5 and 12-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schippers (US 3,360,824).**

The patent to Schippers (US 3,360,824) discloses an extruding apparatus comprising a housing 12 defining a housing aperture 11 and a resin inlet opening 13 therein; a resin transport mechanism 10 that moves resin through the housing aperture 11; a lead-in gap 15 in the housing at the resin inlet opening; a heat transfer inhibitor 17 adjacent the resin inlet opening; the resin transport mechanism 10 comprises an auger 10; the housing 12 includes a substantially cylindrical opening 11 in which the auger sits and the lead-in gap 15 is a widening of the cylinder that decreases in a direction of rotation of the auger (Figs. 1, 2, and 4-9); wherein the lead-in gap 15 also decreases in size in a longitudinal direction of the substantially cylindrical opening (Figs. 1, 2, and 4-9); the lead-in gap 15 being in the inlet end of the housing 12 surrounding the conveyor 10; the lead-in gap 15 having a greater dimension on an inlet side of the housing and decreasing in size in a rotational direction of the conveyor 10 (Figs. 1, 2, and 4-9); a decrease in size of the lead-in gap 15 in a longitudinal direction of the housing (Figs. 1, 2, and 4-9); the conveyor 10 being in a substantially cylindrical cavity 11 in the housing 12; the conveyor 10 rotating about a longitudinal axis of the conveyor 10; the feed port 13 at a feed port end of the conveyor 10 into which material is fed; the lead-in gap 15 formed in the housing 12 at the feed port end of the conveyor 10 (Figs. 1, 2, and 4-9); the lead-in gap 15 extends along an arc of the housing (Figs. 2, 7, 8, and 9); the lead-in

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gap 15 becoming smaller in a direction of rotation of the resin conveyor 10 (Figs. 1, 2, and 4-9); the lead-in gap 15 becomes smaller in a direction of the rotational axis of the conveyor 10 (Figs. 1, 2, and 4-9); the lead-in gap 15 is of a size to accommodate a predetermined flow rate of material; a size of the lead-in gap 15 is variable (as it decreases in size) or via adjustable inhibitor element 17; the heat transfer inhibitor 17 being disposed between the feed material and walls of the feed port 13 to inherently cool the walls of the feed port (Figs. 1-2).

**13. Claims 1-5 and 12-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Effenberger et al. (US 4,279,515).**

The patent to Effenberger et al. (US 4,279,515) discloses an extruding apparatus comprising a housing 22 defining a housing aperture 23 and a resin inlet opening 24 therein; a resin transport mechanism 11 that moves resin through the housing aperture 23; a lead-in gap 3 in the housing at the resin inlet opening 24; a heat transfer inhibitor 1, 7, 9 adjacent the resin inlet opening; the resin transport mechanism 11 comprises an auger 11; the housing 22 includes a substantially cylindrical opening 23 in which the auger sits and the lead-in gap 3 is a widening of the cylinder that decreases in a direction of rotation of the auger (Figs. 1-3 and col. 3, lines 23-29); wherein the lead-in gap 3 also decreases in size in a longitudinal direction of the substantially cylindrical opening (Figs. 1-3 and col. 3, lines 23-29); the lead-in gap 3 being in the inlet end of the

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housing 22 surrounding the conveyor 11; the lead-in gap 3 having a greater dimension on an inlet side of the housing and decreasing in size in a rotational direction of the conveyor 10 (Figs. 1-3 and col. 3, lines 23-29); a decrease in size of the lead-in gap 3 in a longitudinal direction of the housing (Figs. 1-3 and col. 3, lines 23-29); the conveyor 11 being in a substantially cylindrical cavity 23 in the housing 22; the conveyor 11 rotating about a longitudinal axis of the conveyor 11; the feed port 24 at a feed port end of the conveyor 11 into which material is fed; the lead-in gap 3 formed in the housing 22 at the feed port end of the conveyor 11 (Fig. 2); the lead-in gap 3 extends along an arc of the housing (Fig. 3); the lead-in gap 3 becoming smaller in a direction of rotation of the resin conveyor 11 (Figs. 1-3 and col. 3, lines 23-29); the lead-in gap 3 becomes smaller in a direction of the rotational axis of the conveyor 11 (Figs. 1-3 and col. 3, lines 23-29); the lead-in gap 3 is of a size to accommodate a predetermined flow rate of material; a size of the lead-in gap 3 is variable (as it decreases in size or by replacement of the inhibitor with another inhibitor to adapt the extruder to different kinds of resins - col. 4, lines 11-20); the heat transfer inhibitor 1, 7, 9 being disposed proximate the feed material and walls of the feed port 24 to inherently cool the walls of the feed port (Fig. 2).



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**14. Claims 1-5, and 12-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rauwendaal (US 5,909,958).**

The patent to Rauwendaal (US 5,909,958) discloses an extruding apparatus comprising a housing 25 defining a housing aperture 36 and a resin inlet opening 22 therein; a resin transport mechanism 38 that moves resin through the housing aperture 36; a heat transfer inhibitor 54 adjacent the resin inlet opening (col. 7, lines 22-25); a lead-in gap 46 in the housing at the resin inlet opening 22; the resin transport mechanism 38 comprises an auger 38; the housing 25 includes a substantially cylindrical opening 36 in which the auger sits and the lead-in gap 46 is a widening of the cylinder that decreases in a direction of rotation of the auger (Figs. 2-3 and col. 6, lines 44-63); wherein the lead-in gap 46 also decreases in size in a longitudinal direction of the substantially cylindrical opening (Figs. 2-3 and col. 6, lines 44-63); the lead-in gap 46 being in the inlet end of the housing 25 surrounding the conveyor 38; the lead-in gap 46 having a greater dimension on an inlet side of the housing and decreasing in size in a rotational direction of the conveyor 38 (Figs. 2-3 and col. 6, lines 44-63); a decrease in size of the lead-in gap 46 in a longitudinal direction of the housing (Figs. 2-3 and col. 6, lines 44-63); the conveyor 38 being in a substantially cylindrical cavity 36 in the housing 25; the conveyor 38 rotating about a longitudinal axis 14 of the conveyor 38; the feed port 22 at a feed port end of the conveyor 38 into which material is fed; the lead-in gap 46 formed in the housing 25 at the feed port end of the conveyor 38 (Figs.

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2-3); the lead-in gap 46 extends along an arc of the housing (Fig. 4); the lead-in gap 46 becoming smaller in a direction of rotation of the resin conveyor 38 (Figs. 2-3 and col. 6, lines 44-63); the lead-in gap 46 becomes smaller in a direction of the rotational axis 14 of the conveyor 38 (Figs. 2-3 and col. 6, lines 44-63); the lead-in gap 46 is of a size to accommodate a predetermined flow rate of material; a size of the lead-in gap 46 is variable (as it decreases in size or by adjusting the position of the key 48 via actuator 28 - Figs. 2-3 and col. 6, lines 44-63) the heat transfer inhibitor 54 being disposed proximate the feed material and walls of the feed port 22 to inherently cool the walls of the feed zone (col. 7, lines 22-25).

**15. Claims 1, 3-5, and 12-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Peiffer et al. (US 4,678,339).**

The patent to Peiffer et al. (US 4,678,339) discloses an extruding apparatus comprising a housing 2 defining a housing aperture at D and as seen in Fig. 2 and a resin inlet opening 4 therein; a resin transport mechanism 3 that moves resin through the housing aperture; a lead-in gap 5 or 27 in the housing at the resin inlet opening 4 (Figs 1, 4, and 5); the resin transport mechanism 3 comprises an auger 3; the housing 2 includes a substantially cylindrical opening (Fig. 2) in which the auger 3 sits and the lead-in gap 5 or 27 is a widening of the cylinder that decreases in a direction of rotation of the auger (Figs. 1, 4, and 5 and col. 5, lines 25-52); wherein the lead-in gap 5 or 27

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also decreases in size in a longitudinal direction of the substantially cylindrical opening (Figs. 1, 4, and 5 and col. 5, lines 25-52); the lead-in gap 5 or 27 being in the inlet end of the housing 2 surrounding the conveyor 3; the lead-in gap 5 or 27 having a greater dimension on an inlet side of the housing and decreasing in size in a rotational direction of the conveyor 3 (Figs. 1, 4, and 5 and col. 5, lines 25-52); a decrease in size of the lead-in gap 5 or 27 in a longitudinal direction of the housing (Figs. 1, 4, and 5 and col. 5, lines 25-52); the conveyor 3 being in a substantially cylindrical cavity in the housing 2 (Fig. 2); the conveyor 3 rotating about a longitudinal axis of the conveyor 3; the feed port 4 at a feed port end of the conveyor 3 into which material is fed; the lead-in gap 5 or 27 formed in the housing 2 at the feed port end of the conveyor 3 (Figs. 1, 4, and 5 and col. 5, lines 25-52); the lead-in gap 5 or 27 extends along an arc of the housing (Figs. 2, 3, 6, and 7); the lead-in gap 5 or 27 becoming smaller in a direction of rotation of the resin conveyor 3 (Figs. 1, 4, and 5 and col. 5, lines 25-52); the lead-in gap 5 or 27 becomes smaller in a direction of the rotational axis of the conveyor 38 (Figs. 1, 4, and 5 and col. 5, lines 25-52); the lead-in gap 5 or 27 is of a size to accommodate a predetermined flow rate of material; a size of the lead-in gap 5 or 27 is variable (as it decreases in size or by adjusting the position of the members 6 via actuator means 16, 17, 18 -Figs. 1, 4, and 5 and col. 5, lines 25-52).

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***Conclusion***

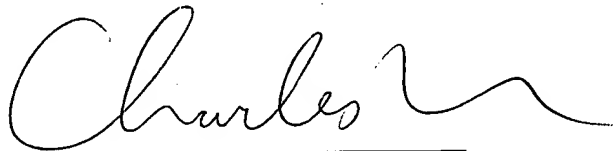
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited prior art discloses throttling members for extruders and/or heat transfer devices for extruders and/or insert members for extruders.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Charles Cooley whose telephone number is ☎ (703) 308-0112.

18. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is ☎ (703) 308-0651.

Dated: 28 October 2003

A handwritten signature in cursive script, appearing to read "Charles", followed by a horizontal line.

**Charles Cooley  
Primary Examiner  
Art Unit 1723**